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EXAMINER	
MATTIS, JASON E	
ART UNIT	**PAPER NUMBER**
2665	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/768,279	MIZUHARA, BUN	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 November 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *-125* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 November 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to the amendment filed on 11/8/04. Due to the replacement drawings filed, the previous drawing objections have been withdrawn. Due to amendments to the claims, the previous rejections of claims 6 and 19-20 under 35 USC § 112 have been withdrawn. Claims 1-25 are currently pending in the application.

Claim Rejections - 35 USC § 102

2. Claims 11-12, 15, 21-22, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda et al. (U.S. Pat. 6711167).

With respect to claim 11, Ikeda et al. discloses a method of operating an asynchronous transfer mode exchange **(See column 8 lines 4-17 and Figure 1 of Ikeda et al. for reference to a router, exchange, operating with an ATM network)**. Ikeda et al. also discloses converting an ATM cell including connection data into a network data packet **(See column 8 line 66 to column 9 line 6 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8 in the SAR module 1 converting ATM cells into IP packets)**. Ikeda et al. further discloses extracting a network layer next hop of the network layer packet **(See column 8 line 66 to column 9 line 17 and Figure 1 of Ikeda et al. for reference to CPU 2 extracting and analyzing the content of the IP header)**. Ikeda et al. also discloses converting the network layer next hop into associated connection data **(See column 9 lines 19-35 and Figure 1 of**

Ikeda et al. for reference to the sending/receiving controller 8 obtaining a VC number, connection data, which corresponds to the VCI/VPI, network layer next hop, of the received ATM cell and also refers to the VC table on the basis of the received VC number). Ikeda et al. further discloses converting the network layer packet an the associated connection data into a first ATM cell **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8 converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25)**. Ikeda et al. also discloses transferring the first ATM cell through an ATM switch **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8 converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25 meaning the created ATM cell has been transferred from an input line card to an output line card of the router, which is an ATM switch)**. Ikeda et al. also discloses converting an ATM cell into a network layer packet **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8 reassembling an IP packet and extracting the connection data for use in a lookup table)**. Ikeda et al. further discloses converting the connection data into a shared medium address **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8 using the connection data to determine which Ethernet interface 4_1 or 4_2 to send the packet to, meaning that it must have extracted an Ethernet address, which is a shared medium address, to be able to send the packet to the correct interface)**. Ikeda et

al. also discloses converting the network layer packet and the shared medium address into a shared medium frame **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting as a seventh unit by converting the IP packet and the address information into a format which is transmitted to an Ethernet network using Ethernet interfaces 4_1 and 4_2, meaning that the sending/receiving controller must have converted the packet into a shared medium frame that can be transmitted on an Ethernet network).** Ikeda et al. further discloses steps (a) to (d) being carried out independently of steps (e) to (h) **(See column 8 lines 58 to column 9 line 57 of Ikeda et al. for reference to the steps of extracting and then sending an ATM cell, steps (a) to (d), being performed independently of the steps of extracting and then sending an Ethernet frame, steps (e) to (h), with the specific processes being performed independently depending of the destination of the received ATM cell).**

With respect to claim 12, Ikeda et al. discloses that steps (e) and (f) are concurrently carried out **(See Figure 3 of Ikeda et al. for reference to the steps of converting the ATM cell an extracting routing information from the header being performed as a parallel processes).**

With respect to claim 15, Ikeda et al. discloses that step (c) is carried out in accordance with a predetermined rule **(See column 9 lines 18-35 of Ikeda et al. for reference to converting VCI/VPI of ATM cells into a VC number by using a predetermined table).**

With respect to claim 21, Ikeda et al. discloses a recording medium readable by a computer storing a program for causing a computer to carry out a method of operating an asynchronous transfer mode exchange **(See column 8 lines 43-51 and Figure 1 of Ikeda et al. for reference to a recording medium 5 that stores and executes a program to operate an ATM router, exchange, as disclosed by Ikeda et al.)**. Ikeda et al. also discloses converting an ATM cell including connection data into a network data packet **(See column 8 line 66 to column 9 line 6 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8 in the SAR module 1 converting ATM cells into IP packets)**. Ikeda et al. further discloses extracting a network layer next hop of the network layer packet **(See column 8 line 66 to column 9 line 17 and Figure 1 of Ikeda et al. for reference to CPU 2 extracting and analyzing the content of the IP header)**. Ikeda et al. also discloses converting the network layer next hop into associated connection data **(See column 9 lines 19-35 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8 obtaining a VC number, connection data, which corresponds to the VCI/VPI, network layer next hop, of the received ATM cell and also refers to the VC table on the basis of the received VC number)**. Ikeda et al. further discloses converting the network layer packet an the associated connection data into a first ATM cell **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8 converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25)**. Ikeda et al. also discloses transferring the first ATM cell through an ATM switch **(See column 9 lines 53-57 and Figure 1 of Ikeda et**

al. for reference to sending/received controller 8 converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25 meaning the created ATM cell has been transferred from an input line card to an output line card of the router, which is an ATM switch). Ikeda et al. also discloses converting an ATM cell into a network layer packet **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8 reassembling an IP packet and extracting the connection data for use in a lookup table).** Ikeda et al. further discloses converting the connection data into a shared medium address **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8 using the connection data to determine which Ethernet interface 4_1 or 4_2 to send the packet to, meaning that it must have extracted an Ethernet address, which is a shared medium address, to be able to send the packet to the correct interface).** Ikeda et al. also discloses converting the network layer packet and the shared medium address into a shared medium frame **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting as a seventh unit by converting the IP packet and the address information into a format which is transmitted to an Ethernet network using Ethernet interfaces 4_1 and 4_2, meaning that the sending/receiving controller must have converted the packet into a shared medium frame that can be transmitted on an Ethernet network).** Ikeda et al. further discloses steps (a) to (d) being carried out independently of steps (e) to (h) **(See column 8 lines 58 to column 9 line 57 of Ikeda et al. for reference to the steps of**

extracting and then sending an ATM cell, steps (a) to (d), being performed independently of the steps of extracting and then sending an Ethernet frame, steps (e) to (h), with the specific processes being performed independently depending of the destination of the received ATM cell).

With respect to claim 22, Ikeda et al. discloses that steps (e) and (f) are concurrently carried out **(See Figure 3 of Ikeda et al. for reference to the steps of converting the ATM cell an extracting routing information from the header being performed as a parallel processes).**

With respect to claim 25, Ikeda et al. discloses that step (c) is carried out in accordance with a predetermined rule **(See column 9 lines 18-35 of Ikeda et al. for reference to converting VCI/VPI of ATM cells into a VC number by using a predetermined table).**

Claim Rejections - 35 USC § 103

3. Claims 1, 4-6, 9-10, 16, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. (U.S. Pat. 6711167) in view of Rusu et al. (U.S. Pat. 6111880).

With respect to claim 1, Ikeda et al. discloses an asynchronous transfer mode exchange **(See column 8 lines 4-17 and Figure 1 of Ikeda et al. for reference to a router, exchange, for use with an ATM network)**. Ikeda et al. also discloses both a next hop information adder and a shared medium frame generator **(See column 8 lines**

18-42 and item 1 of Figure 1 for reference to segmentation and reassembly module 1, which performs the functions of both a next hop information adder and a shared medium frame generator). Ikeda et al. further discloses a first unit, which converts an ATM cell including connection data into a network layer packet **(See column 8 line 66 to column 9 line 6 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8 in the SAR module 1 converting ATM cells into IP packets)**. Ikeda et al. also discloses a second unit, which extracts a network layer next hop out of the network layer packet **(See column 8 line 66 to column 9 line 17 and Figure 1 of Ikeda et al. for reference to CPU 2 extracting and analyzing the content of the IP header)**. Ikeda et al. further discloses a third unit, which converts the network layer next hop into associated connection data **(See column 9 lines 19-35 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8, acting as the third unit by obtaining a VC number, connection data, which corresponds to the VCI/VPI, network layer next hop, of the received ATM cell and also refers to the VC table on the basis of the received VC number)**. Ikeda et al. also discloses a fourth unit, which receives the network layer packet from the second unit and the connection data from the third unit, and converts the thus received network layer packet and connection data into an ATM cell **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8, acting also as a forth unit, converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25)**. Ikeda et al. further discloses a fifth unit, which coverts the ATM cell into a network layer packet and

extracts the connection data our of the ATM cell **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a fifth unit by reassembling an IP packet and extracting the connection data for use in a lookup table)**. Ikeda et al. also discloses a sixth unit, which receives the connection data from the fifth unit and converts the received data into a shared medium address **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a sixth unit by using the connection data to determine which Ethernet interface 4_1 or 4_2 to send the packet to, meaning that it must have extracted an Ethernet address, which is a shared medium address, to be able to send the packet to the correct interface)**. Ikeda et al. further discloses a seventh unit, which receives the network layer packet from the fifth unit and the shared medium address from the sixth unit and coverts the received network packet and shared medium address into a shared medium frame **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting as a seventh unit by converting the IP packet and the address information into a format which is transmitted to an Ethernet network using Ethernet interfaces 4_1 and 4_2, meaning that the sending/receiving controller must have converted the packet into a shared medium frame that can be transmitted on an Ethernet network)**. Ikeda et al. does not specifically disclose that the shared medium frame generator and the next hop information adder are separate from each other and connected to each other by an ATM switch.

With respect to claim 6, Ikeda et al. discloses an asynchronous transfer mode exchange **(See column 8 lines 4-17 and Figure 1 of Ikeda et al. for reference to a router, exchange, for use with an ATM network)**. Ikeda et al. also discloses an asynchronous transfer mode switch **(See column 8 lines 4-17 and Figure 1 of Ikeda et al. for reference to a router, which is a type of switch, for use with an ATM network)**. Ikeda et al. further discloses a server card receiving an ATM cell including connection data from the asynchronous transfer mode **(See column 8 lines 26-35 and Figure 1 of Ikeda et al. for reference to SAR 1 including a physical interface 7, which is an interface circuit for receiving data from an ATM communications network)**. Ikeda et al. also discloses an Ethernet line card receiving an ATM cell including connection data from the asynchronous transfer mode, and connecting to an Ethernet terminal directly or through an Ethernet router **(See column 8 lines 4-17 of Ikeda et al. for reference to first and second Ethernet interfaces 4_1 and 4_2 which receive data from the ATM network and transfer them to an Ethernet network terminal as an Ethernet frame)**. Ikeda et al. further discloses an asynchronous transfer mode line card receiving an ATM cell and connecting to an asynchronous transfer mode terminal directly of through an asynchronous transfer mode router **(See column 8 lines 26-35 and Figure 1 of Ikeda et al. for reference to SAR 1 including a physical interface 7, acting as an ATM line card, which is an interface circuit for receiving data from an ATM communications network)**. Ikeda et al. also discloses a first unit, which converts the ATM cell into a network layer packet **(See column 8 line 66 to column 9 line 6 and Figure 1 of Ikeda et al. for reference to the**

sending/receiving controller 8 in the SAR module 1 converting ATM cells into IP packets). Ikeda et al. further discloses a second unit, which extracts a network layer next hop out of the network layer packet **(See column 8 line 66 to column 9 line 17 and Figure 1 of Ikeda et al. for reference to CPU 2 extracting and analyzing the content of the IP header)**. Ikeda et al. also discloses a third unit, which converts the network layer next hop into associated connection data **(See column 9 lines 19-35 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8, acting as the third unit by obtaining a VC number, connection data, which corresponds to the VCI/VPI, network layer next hop, of the received ATM cell and also refers to the VC table on the basis of the received VC number)**. Ikeda et al. further discloses a fourth unit, which receives the network layer packet from the second unit and the connection data from the third unit and converts the received network layer packet and connection data into an ATM cell **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8, acting also as a forth unit, converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25)**. Ikeda et al. also discloses a fifth unit, which converts the ATM cell into a network layer packet and extracts the connection data out of the ATM cell **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a fifth unit by reassembling an IP packet and extracting the connection data for use in a lookup table)**. Ikeda et al. further discloses a sixth unit, which receives the connection data from the fifth unit and converts the received connection data into a shared medium

address **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a sixth unit by using the connection data to determine which Ethernet interface 4_1 or 4_2 to send the packet to, meaning that it must have extracted an Ethernet address, which is a shared medium address, to be able to send the packet to the correct interface)**. Ikeda et al. also discloses a seventh unit, which receives the network layer packet from the fifth unit and the shared medium address from the sixth unit and coverts the received network layer packet and shared medium address into a shared medium frame **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting as a seventh unit by converting the IP packet and the address information into a format which is transmitted to an Ethernet network using Ethernet interfaces 4_1 and 4_2, meaning that the sending/receiving controller must have converted the packet into a shared medium frame that can be transmitted on an Ethernet network)**. Ikeda et al. does not specifically disclose that the Ethernet line card and the server card are separate from each other and connected to each other by an ATM switch.

With respect to claim 16, Ikeda et al. discloses a recording medium readable by a computer storing a program therein for cause a computer to act as an asynchronous transfer mode exchange **(See column 8 lines 43-51 and Figure 1 of Ikeda et al. for reference to a recording medium 5 that stores and executes a program to operate an ATM router, exchange, as disclosed by Ikeda et al.)**. Ikeda et al. also discloses both a next hop information adder and a shared medium frame generator **(See column**

8 lines 18-42 and item 1 of Figure 1 for reference to segmentation and reassembly module 1, which performs the functions of both a next hop information adder and a shared medium frame generator). Ikeda et al. further discloses a first unit, which converts an ATM cell including connection data into a network layer packet **(See column 8 line 66 to column 9 line 6 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8 in the SAR module 1 converting ATM cells into IP packets)**. Ikeda et al. also discloses a second unit, which extracts a network layer next hop out of the network layer packet **(See column 8 line 66 to column 9 line 17 and Figure 1 of Ikeda et al. for reference to CPU 2 extracting and analyzing the content of the IP header)**. Ikeda et al. further discloses a third unit, which converts the network layer next hop into associated connection data **(See column 9 lines 19-35 and Figure 1 of Ikeda et al. for reference to the sending/receiving controller 8, acting as the third unit by obtaining a VC number, connection data, which corresponds to the VCI/VPI, network layer next hop, of the received ATM cell and also refers to the VC table on the basis of the received VC number)**. Ikeda et al. also discloses a fourth unit, which receives the network layer packet from the second unit and the connection data from the third unit, and converts the thus received network layer packet and connection data into an ATM cell **(See column 9 lines 53-57 and Figure 1 of Ikeda et al. for reference to sending/received controller 8, acting also as a forth unit, converting the information into an ATM cell, which is then transferred to ATM25 interface 4_3, if the destination of the cell is ATM25)**. Ikeda et al. further discloses a fifth unit, which coverts the ATM cell into a network layer packet and

extracts the connection data our of the ATM cell **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a fifth unit by reassembling an IP packet and extracting the connection data for use in a lookup table)**. Ikeda et al. also discloses a sixth unit, which receives the connection data from the fifth unit and converts the received data into a shared medium address **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting also as a sixth unit by using the connection data to determine which Ethernet interface 4_1 or 4_2 to send the packet to, meaning that it must have extracted an Ethernet address, which is a shared medium address, to be able to send the packet to the correct interface)**. Ikeda et al. further discloses a seventh unit, which receives the network layer packet from the fifth unit and the shared medium address from the sixth unit and coverts the received network packet and shared medium address into a shared medium frame **(See column 9 lines 41-52 and Figure 1 of Ikeda et al. for reference to sending/receiving controller 8, acting as a seventh unit by converting the IP packet and the address information into a format which is transmitted to an Ethernet network using Ethernet interfaces 4_1 and 4_2, meaning that the sending/receiving controller must have converted the packet into a shared medium frame that can be transmitted on an Ethernet network)**. Ikeda et al. does not specifically disclose that the shared medium frame generator and the next hop information adder are separate from each other and connected to each other by an ATM switch.

With respect to claims 1, 6, and 16, Rusu et al., in the field of communications, discloses a system including a separate shared medium frame generator and next hop information adder that are connected to each other by an ATM switch **(See column 2 line 31 to column 4 line 19 and Figures 1 and 2 of Rusu et al. for reference to a hybrid switching system 5 including a separate Ethernet interface subsystem 10E, which is a shared medium frame generator or Ethernet line card, and ATM interface subsystem 10A, which is a next hop information adder or server card, connected by a hybrid switch 10 as shown in Figures 1 and 2)**. Using a separate shared medium frame generator and next hop information adder connected by an ATM switch has the advantage of allowing parallel processing of incoming ATM cells such that outgoing Ethernet frames and outgoing ATM cells may be generated at the same time.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Rusu et al., to combine the separate shared medium frame generator and next hop information adder connected by an ATM switch, as suggested by Rusu et al., with the system and method of Ikeda et al., with the motivation being to allow parallel processing of incoming ATM cells such that outgoing Ethernet frames and outgoing ATM cells may be generated at the same time.

With respect to claim 4, Ikeda et al. discloses that the third unit converts the network layer next hop into the associated connection data in accordance with a predetermined rule **(See column 9 lines 18-35 of Ikeda et al. for reference to**

converting VCI/VPI of ATM cells into a VC number by using a predetermined table).

With respect to claim 5, Ikeda et al. discloses that a communication between the third unit and the sixth unit is made through an internal connection identifier **(See column 9 lines 18-35 of Ikeda et al. for reference to sending/receiving controller using a VC number, which is an internal connection identifier, to communicate information relating to the address or next hop of the ATM cell or IP packet).**

With respect to claim 9, Ikeda et al. discloses that the third unit converts the network layer next hop into the associated connection data in accordance with a predetermined rule **(See column 9 lines 18-35 of Ikeda et al. for reference to converting VCI/VPI of ATM cells into a VC number by using a predetermined table).**

With respect to claim 10, Ikeda et al. discloses that a communication between the third unit and the sixth unit is made through an internal connection identifier **(See column 9 lines 18-35 of Ikeda et al. for reference to sending/receiving controller using a VC number, which is an internal connection identifier, to communicate information relating to the address or next hop of the ATM cell or IP packet).**

With respect to claim 19, Ikeda et al. discloses that the third unit converts the network layer next hop into the associated connection data in accordance with a predetermined rule **(See column 9 lines 18-35 of Ikeda et al. for reference to converting VCI/VPI of ATM cells into a VC number by using a predetermined table).**

With respect to claim 20, Ikeda et al. discloses that a communication between the third unit and the sixth unit is made through an internal connection identifier **(See column 9 lines 18-35 of Ikeda et al. for reference to sending/receiving controller using a VC number, which is an internal connection identifier, to communicate information relating to the address or next hop of the ATM cell or IP packet)**.

4. Claims 2-3, 7-8, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. in view Rusu et al. as applied to claims 1, 4-6, 9-10, 16, and 19-20 above and in further view of Kshirsagar et al. (U.S. Pat. 6016319).

With respect to claims 2-3, 7-8, and 17-18, the combination of Ikeda et al. and Rusu et al. does not disclose a relation between the network layer hop and the connection data and a relationship between the connection data and the shared medium address being defined by address resolution protocol.

Kshirsagar et al., in the field of communications, discloses using address resolution protocol to define a relation between addresses **(See column 1 lines 46-67 of Kshirsagar et al. for reference to using address resolution protocol to define a relationship between VPI/VCI and IP address and physical channel addresses)**. Using address resolution protocol in an exchange has the advantage of allowing the exchange to route packets to destinations that have dynamic IP addresses.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Kshirsagar et al., to combine the use of address resolution protocol, as suggested by Kshirsagar et al., with the ATM exchange

and method of operating an exchange of Ikeda et al. and Rusu et al., with the motivation being to allow the exchange to route packets to destinations that have dynamic IP addresses.

5. Claims 13-14 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al. in view Kshirsagar et al. (U.S. Pat. 6016319).

With respect to claims 13-14 and 23-24, Ikeda et al. does not disclose a relation between the network layer hop and the connection data and a relationship between the connection data and the shared medium address being defined by address resolution protocol.

Kshirsagar et al., in the field of communications, discloses using address resolution protocol to define a relation between addresses **(See column 1 lines 46-67 of Kshirsagar et al. for reference to using address resolution protocol to define a relationship between VPI/VCI and IP address and physical channel addresses)**. Using address resolution protocol in an exchange has the advantage of allowing the exchange to route packets to destinations that have dynamic IP addresses.

It would have been obvious to one of ordinary skill in the art at the time of the invention, when presented with the work of Kshirsagar et al., to combine the use of address resolution protocol, as suggested by Kshirsagar et al., with the ATM exchange and method of operating an exchange of Ikeda et al., with the motivation being to allow the exchange to route packets to destinations that have dynamic IP addresses

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jem

ALPUS H. HSU
PRIMARY EXAMINER